

Application No. 10/757,865  
Amendment dated July 6, 2006

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**REMARKS**

**INTRODUCTION**

The Applicants sincerely thank Examiner Menon for the courtesies extended during the interview conducted June 29, 2006, with Applicants' representative. The changes to the claims shown above were discussed at the interview. Applicants appreciate the Examiner's indication that the changes would be given due consideration. Claims 1-54 are pending in the application. The Office Action dated April 6, 2006, rejected claims 1-54 as being unpatentable over U.S. Patent No. 5,989,431 to Evans et al. ("Evans et al.") or U.S. Patent No. 5,620,663 to Aysta et al. ("Aysta et al.") Applicants have amended the application in response to the Office Action. Reconsideration and favorable action are earnestly solicited.

**Rejection of Claims 1, 2, 4-17, 19, 20, 26-37, 48, 49, 51, and 53 under 35 U.S.C. §102(b) as Being Anticipated by Evans et al.**

The Office Action rejected claims 1, 2, 4-17, 19, 20, 26-37, 48, 49, 51, and 53 under 35 U.S.C. §102(b) as being anticipated by Evans et al. Evans et al. discloses a system for DNA extraction including a tubular sample apparatus (1) which insertably engages a filter apparatus (9) by a friction fit. Evans teaches the culturing of blood or other samples which can then be trapped on a membrane of the filter (9) apparatus for DNA sequencing or other processing. Evans et al. fails to disclose or suggest a purification device as claimed in claim 1, including "at least one ribonucleic acid-capturing (RNA-capturing) membrane." Evans et al. discloses the capture and treatment of DNA samples, but not RNA samples and therefore, does not disclose a "ribonucleic acid-capturing (RNA-capturing) membrane." Evans et al. further fails to disclose or suggest a

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“removable vacuum adapter plate” having “one or more through-holes” along with a “set of first plate connectors extending from the first surface, disposed in fluid communication with the one or more through-holes.”

Claim 1 further recites that the “first filter connector is capable of connecting to the vacuum adapter plate via the first plate connectors to form a leak-free fluid communication from the interior of the filter through a respective one of the one or more through-holes to the connectable collection vessel.” Evans et al. fails to disclose or suggest a purification device including this structure.

Evans et al., for example, does not disclose a “removable vacuum adapter plate,” but instead describes a manifold (31) having a top portion (32) which is permanently affixed to the body of the manifold. See, e.g., Figures 3 and 4, and Evans et al., and column 8, lines 36-40. Evans et al. further fails to disclose or suggest a “set of first plate connectors extending from the first surface, disposed in fluid communication with the one or more through-holes,” as recited in claim 1. The “set of first plate connectors extending from the first surface” protrude or extend from the first surface of the removable vacuum connector plate of the claimed invention as, for example, illustrated in the embodiments shown in Figures 1 and 2 of Applicants’ application. According to various embodiments, the protruding “set of first plate connectors” can be used to connect to the “first filter connector,” for example, in slip-on, lock-on, or other fashion. Evans et al. fails to disclose or suggest any such “set of first plate connectors,” and instead teaches only a manifold (31) having no connectors “extending from the first surface” or otherwise. Lacking these and other features of the claimed invention, Evans et al. fails to disclose or suggest the purification device of claim 1, and the rejection of claim 1 based on that reference is overcome. The rejection of claim 1 is respectfully traversed. Favorable reconsideration is respectfully requested.

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Claims 2, 4-17, 19, 20, and 26-29 distinguish over Evans et al. for at least the same reasons as claim 1, from which they depend, and because of the further limitations recited therein. Claim 2, for example, recites that the "first filter connector extends away from the filter body." Evans et al. fails to disclose or suggest these and other limitations as recited. Claims 2, 4-17, 19, 20, and 26-29 therefore distinguish over Evans et al. The rejection of the claims is respectfully traversed. Reconsideration is respectfully requested.

The Office Action rejected claim 30 as being anticipated by Evans et al. Claim 30 recites a kit including "at least one filter," along with "at least one ribonucleic acid-capturing (RNA-capturing) membrane," "at least one syringe body," and a "removable vacuum adapter plate comprising a substrate, at least one through-hole extending through the substrate, and a first plate connector extending from the substrate and capable of forming a fluid communication with the first filter connector." Evans et al. fails to disclose or suggest such a kit. Applicants first observe that Evans et al. fails to disclose either a "ribonucleic acid-capturing (RNA-capturing) membrane" or "at least one syringe body." The sample apparatus (1) disclosed by Evans et al is not described as a "syringe" and treats DNA, rather than RNA. Moreover, Evans et al. fails to disclose or suggest a "removable vacuum adapter plate," along with a "first plate connector extending from the substrate and capable of forming a fluid communication with the first filter connector." As noted above in connection with claim 1, Evans et al. fails to describe a "removable vacuum adapter plate." The manifold (31) illustrated in Evans instead includes a permanent or fixed cover (32) which furthermore lacks a "first plate connector extending from the substrate." Lacking these and other limitations of the invention as claimed, claim 30 distinguishes over Evans et al. The rejection of claim 30 is respectfully traversed. Reconsideration is respectfully requested.

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The Office Action rejected claims 31-37 under 35 U.S.C. §102(b) as being anticipated by Evans et al. Claims 31-37 distinguish over Evans et al. for at least the same reasons as claim 30, from which they depend, and because of the further limitations recited therein. Claim 37, for example, recites that the “at least one syringe body having an interior of about 5 ml comprises at least 12 syringe bodies.” Evans fails to disclose or suggest a set of syringes. Lacking these and other limitations recited in the claims, claims 31-37 distinguish over Evans et al, and the rejection is overcome. The rejection is respectfully traversed. Reconsideration is respectfully requested.

The Office Action rejected claim 48 under 35 U.S.C. §102(b) as being anticipated by Evans et al. Claim 48 recites a purification device including a “filter,” along with “at least one ribonucleic acid-capturing (RNA-capturing) membrane,” a “collection vessel,” and a “removable adapter plate including one or more through-holes sized to accommodate the collection vessel, and a set of first plate connectors extending from a first surface of the adapter plate and disposed in fluid communication with the one or more through-holes,” and further wherein the “first filter connector is capable of connecting to the first open end via the set of first plate connectors to form a leak-free fluid communication from the interior of the filter to the collection vessel.” As noted above in connection with claims 1 and 30, Evans et al. fails to disclose or suggest a purification device including a “ribonucleic acid-capturing (RNA-capturing) membrane.” Evans et al. likewise fails to disclose or suggest a “removable adapter plate,” as well as the recited structure of a “set of first plate connectors extending from a first surface of the adapter plate.” The top portion (32) of the manifold (31) disclosed in Evans contains no such extending or protruding connectors. Lacking these and other limitations as recited, claim 48 distinguishes over Evans et al, and the rejection of claim 48 based on that reference is overcome. The rejection is respectfully traversed.

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Reconsideration is respectfully requested.

Claims 49, 51, and 53 distinguish over Evans et al. for at least the same reasons as claim 48, from which they depend, along with the further features recited therein. Claim 53, for example, recites a purification system that is "capable of creating a pressure gradient across the RNA-capturing membrane," a type of membrane filtration lacking in Evans et al. The rejection of claims 49, 51, and 53 is overcome. The rejection is respectfully traversed. Reconsideration is respectfully requested.

**Rejection of Claims 1-4, 11, 14, 16-29, 38-41, 43-47, and 48-54 under 35 U.S.C. §102(b) as Being Anticipated by Aysta et al.**

The Office Action rejected claims 1-4, 11, 14, 16-29, 38-41, 43-47, and 48-54 under 35 U.S.C. §102(b) anticipated by Aysta et al. Aysta et al. discloses a support plate accommodating and being integrally connected with a plurality of adjacent sample containers in which a set of sample containers (12) are connected in fluid communication with a set of collecting containers (32).

Aysta et al., in general, teaches a plate system employing a non-airtight connection or seal to avoid back pressure developing in the collection container (32). Aysta et al. teaches that in terms of the "contact between the collecting container and the sample container," this "contact should not be absolutely airtight since a partial vacuum (less than 1 atmosphere) is preferably generated and maintained in the collecting tube during the separating procedure." Aysta et al. column 3, lines 12-21. Aysta et al. therefore fails to disclose or suggest a purification device as claimed in claim 1, wherein a "first filter connector is capable of connecting to the vacuum adapter plate via the set of

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first plate connectors to form a leak-free fluid communication from the interior of the filter through a respective one of the one or more through-holes to the connectable collection vessel.” Aysta et al. actually teaches away from the claimed invention by describing a system in which the communication is not fluidly leak-free, but instead specifically designed to allow air to leak to equalize pressure. Lacking the leak-free feature and other features of the invention as claimed, claim 1 distinguishes over Aysta et al. The rejection is respectfully traversed. Reconsideration is respectfully requested.

Claims 2-4, 11, 14, 16-29 distinguish over Aysta et al. for at least the same reasons as claim 1, from which they depend, and because of the further features recited therein. Claim 11, for example, recites that the “filter body further comprises a second filter connector disposed on an opposite side of the filter body relative to the first filter connector,” a connection structure which Aysta et al. fails to disclose or suggest. Lacking these and other recited features of the claims, claims 2-4, 11, 14, and 16-29 distinguish over Aysta et al. The rejection is respectfully traversed. Reconsideration is respectfully requested.

The Office Action rejected claim 38 as being anticipated by Aysta et al. Claim 38 recites a method including “providing a removable vacuum adapter plate” having a “set of first plate connectors,” wherein the “sample introduction opening is connected to a respective one of the one or more through-holes via the set of first plate connectors such that a leak-free fluid communication is provided between the at least one filter, the vacuum adapter plate, and the connectable collection container.” As noted above in connection with claim 1, Aysta fails to disclose or suggest a “leak-free fluid communication” but, instead, teaches a connection that “should not be absolutely airtight.” Lacking this leak-free feature and other features of the method as claimed, claims 38

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distinguishes over Aysta et al. The rejection based on that reference is overcome. The rejection is respectfully traversed. Reconsideration is respectfully requested.

Claims 39-41 and 43-47 distinguish over Aysta et al. for at least the same reasons as claim 38, from which they depend, and because of the further features recited therein. Claim 44, for example, recites "pre-wetting the RNA-capturing membrane before causing the capturing of the RNA in the sample," an operation not disclosed or suggested in Aysta et al. Lacking these and other features of the method as claimed, claims 39-41 and 43-47 distinguish over Aysta et al. The rejection is respectfully traversed. Reconsideration is respectfully requested.

The Office Action rejected claims 48-54 under 35 U.S.C. §102(b) as being anticipated by Aysta et al. Claim 48 recites a purification device including a "filter," the filter comprising a "first filter connector," wherein the "first filter connector is capable of connecting the first open end via the set of first plate connectors to form a leak-free fluid communication from the interior of the filter to the collection vessel." Aysta et al. fails to disclose or suggest a purification device as claimed, including a device in which the "first filter connector is capable of connecting the first open end via the set of first plate connectors to form a leak-free fluid communication" as recited. Aysta et al. instead describes the purposeful lack of an airtight or fluid-tight seal to eliminate back pressure in the collection container (32). Lacking these and other limitations of the invention as claimed, claim 48 distinguishes over Aysta et al., and the rejection based on that reference is overcome. The rejection is respectfully traversed. Reconsideration is respectfully requested.

Claims 49-54 distinguish over Aysta et al. for at least the same reasons as claim 48 from which they depend, and because of the further features recited therein. Claim 49, for example, recites a "sample reservoir device that includes a connector capable of connecting the sample

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reservoir device to the filter to form a fluid communication between the sample reservoir device and the filter,” a structure not disclosed or suggested by Aysta et al. Lacking these and other features of the invention as claimed, claims 49-54 distinguish over Aysta et al. The rejection is respectfully traversed. Reconsideration is respectfully requested.

**Rejection of Claim 42 under 35 U.S.C. §103(a) as Being Unpatentable Over Aysta et al.**

The Office Action rejected claim 42 under 35 U.S.C. §103(a) as being unpatentable over Aysta et al., conceding that claim 42 “lacks a teaching of “drying the membrane before eluting the RNA.” Applicants respectfully submit that Aysta et al. fails not only to disclose a step of “drying the RNA-capturing membrane prior to eluting the captured RNA,” but also the inventive method as a whole, including “wherein the sample introduction opening is connected to a respective one of the one or more through-holes via the set of first plate connectors such that a leak-free fluid communication is provided between the at least one filter, the vacuum adapter plate, and a connectable collection container.” Lacking all such suggestion of the invention as claimed, claim 42 is distinguished over Aysta et al. under 35 U.S.C. §103(a). The rejection is respectfully traversed. Reconsideration is respectfully requested.

**CONCLUSION**

Applicants have duly considered all rejections of the claims in the Office Action dated April 6, 2006, and addressed each in the amendments and remarks above. The rejections of claims 1-54 are therefore overcome. Reconsideration is respectfully requested.

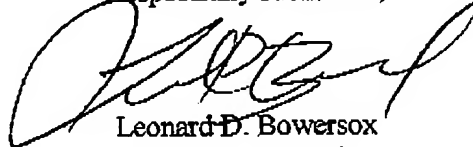


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Should the Examiner deem that any further action by Applicants or Applicants' undersigned representative is desirable and/or necessary, the Examiner is invited to telephone the undersigned at the number set forth below.

If there are any other fees due in connection with the filing of this response, please charge the fees to deposit Account No. 50-0925. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and should also be charged to said Deposit Account.

Respectfully submitted,



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